

CLAIMS

We claim:

1. A temperature measuring device for measuring the temperature of a fluid flowing in a tube, comprising an electric temperature sensor (2) securely attached to an outer side of a central tube section (1) so as not to shift radially or axially, the temperature sensor (2) being outwardly protected by a hollow housing (6, 21) that surrounds the tube section (1) with a spacing therefrom, and a connection cable (4, 70) electrically and mechanically affixed to the temperature sensor (2) and guided through an opening (18) of the housing (6, 21), wherein the temperature sensor (2) is mounted on strip conductors (3) on the outer side of the tube section (1) using a thermally and electrically good-conducting paste.

2. The temperature measuring device according to claim 1, wherein the tube section (1) provided with the temperature sensor (2) is positioned axially in the housing (6, 21) using two spaced apart rings (7, 8).

3. The temperature measuring device according to claim 1, wherein the temperature sensor (2) is connected to an end of the connection cable (4, 70) via the strip conductors (3) mounted along the tube section (1).

4. The temperature measuring device according to claim 1, wherein a surface-mountable temperature sensor (2) is mounted on the tube section (1).

5. The temperature measuring device according to claim 4, wherein a platinum thin layer resistor is mounted as a temperature sensor (2) onto the outer side of the tube section (1).

6. The temperature measuring device according to claim 1, wherein the housing (6) is sheath-shaped, and wherein the tube section (1) on its two ends, as seen in a axial direction, is connected to a respective end tube section (11, 12), which has a hose connection end with a flange (13, 14).

7. The temperature measuring device according to claim 6, wherein the sheath-shaped housing (6) comprises two semi-cylindrically constructed parts (6', 6''), which are connected to each other via a flexible foil hinge (35).

8. The temperature measuring device according to claim 7, wherein the foil hinge (35) has a pivot axis which runs parallel to an axis (10) of the tube section (1).

9. The temperature measuring device according to claim 8, wherein diametrically opposite the foil hinge (35), a sealing device is provided, which is formed by at least one hook (37) on a first housing part (6') that catches in a recess (36) of an opposing housing part (6'').

10. The temperature measuring device according to claim 9, wherein two hooks (37) are arranged on the first housing part (6') spaced along a line parallel to the axis (10), which hooks (37) catch in opposing recesses (36), and wherein the connection cable (4) at its end seen in the axial direction is clamped in a form-fit manner along a separation line of the two housing parts (6', 6'') between the two hooks (37).

11. The temperature measuring device according to claim 6, wherein all three tube sections (1, 11, 12) are part of a one-piece tube made of a thermally good-conducting ceramic material.

12. The temperature measuring device according to claim 1, wherein the tube section (1) provided with the temperature sensor (2) is a part of a carrier body surrounded by a housing (21) of a function module, wherein the tube section (1) is axially positioned at its two ends with two tube flanges (55, 56).

13. The temperature measuring device according to claim 12, wherein the tube flanges (55, 56) are constructed as spacer elements to also support the carrier body in a radial direction.

14. The temperature measuring device according to claim 12, wherein the tube flanges (55, 56) have annular grooves (59, 60), which are provided to receive O-rings (57, 58) for sealing off the carrier body (52) at its respective intake and outlet against the flowing fluid.

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FOOTNOTES